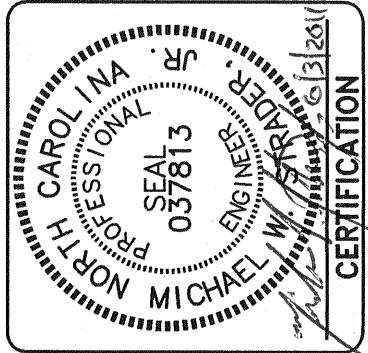


# HYDE COUNTY (FY 09 CDBG)

## LAKE SWAMP ROAD (SR 1314)

ENGELHARD, HYDE COUNTY, NC

**Quible & Associates, P.C.**  
SINCE 1959  
ENGINEERING • CONSULTING • PLANNING  
ENVIRONMENTAL SCIENCES • SURVEYING  
NC License# C-0208  
PO Box 2400, Cary, NC 27513  
Phone: (919) 241-1280 Fax: (919) 241-1280  
E-Mail: admin@quible.com



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WRITTEN PERMISSION OF QUIBLE &  
ASSOCIATES, P.C. ANY VIOLATION OF  
THIS NOTICE WILL BE SUBJECT  
TO LEGAL ACTION.

REVISIONS		DATE	NO.

COVER SHEET

HYDE COUNTY FY 09 CDBG  
LAKE SWAMP ROAD

ENGELHARD  
HYDE COUNTY  
NORTH CAROLINA

COMMISSION NO.	P09052
DESIGNED BY	MWS
DRAWN BY	TAS
CHECKED BY	MWS
ISSUE DATE	6/3/11

SHEET NO.

1

OF 5 SHEETS

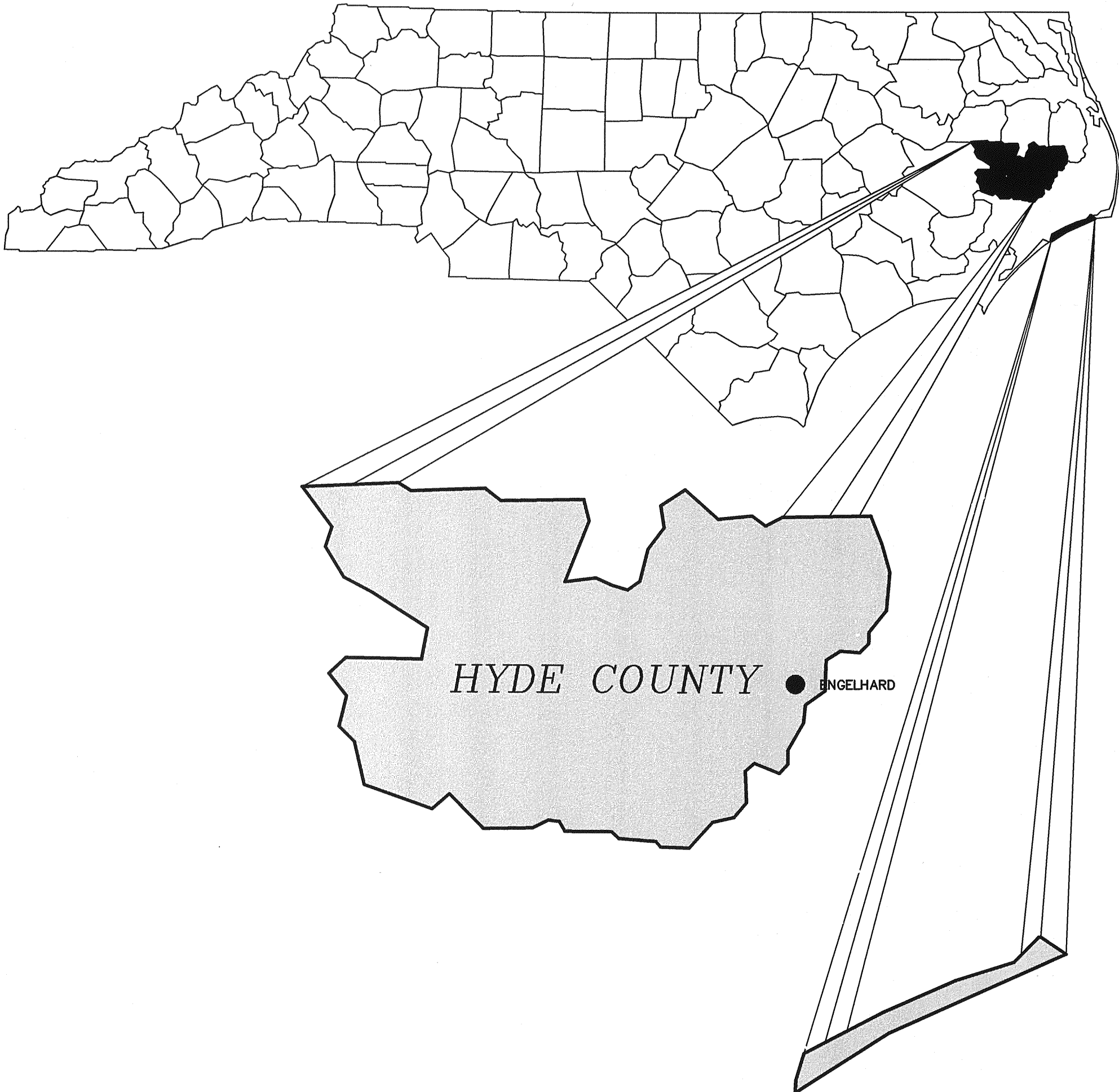
### SHEET INDEX

- COVER SHEET
- PLAN & PROFILES (STA. 0+00 TO 9+00)
- PLAN & PROFILES (STA. 9+00 TO 18+50)
- WATER & SEWER EXTENSION DETAILS
- WASTEWATER DETAILS

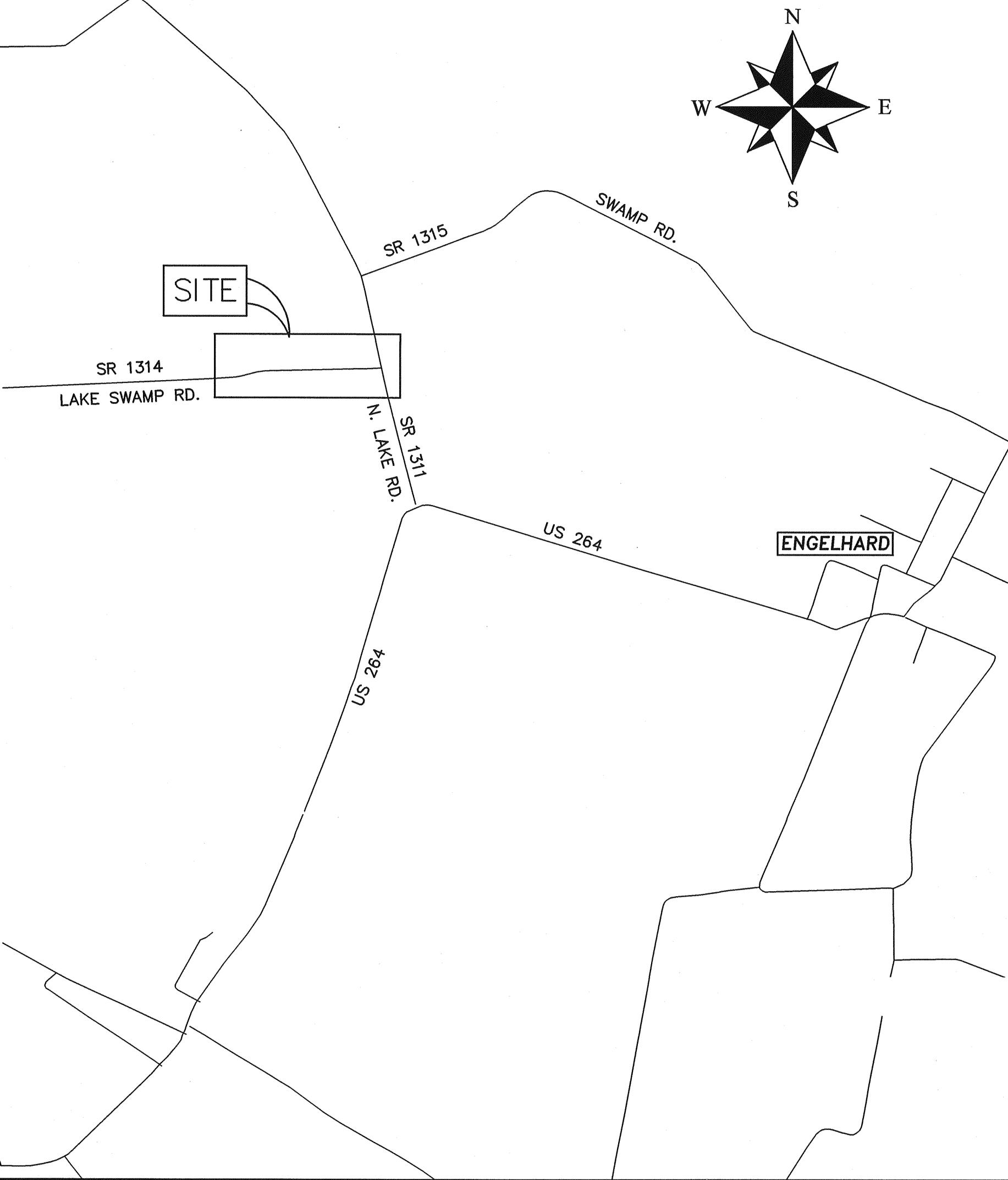
### GENERAL NOTES

- GENERAL NOTES:**
- PHYSICAL FEATURES AND TOPOGRAPHIC INFORMATION ARE BASED ON FIELD SURVEY PERFORMED BY QUIBLE & ASSOCIATES, P.C., IN MARCH 2011. BENCHMARK AND CONTROL POINT LOCATIONS ARE SHOWN ON THE DRAWINGS. HORIZONTAL POSITION IS BASED NAD 83 NSRS. VERTICAL DATUM IS BASED ON NAVD 88. (SEID 09). RIGHT-OF-WAY SHOWN IS APPROXIMATE BASED ON FIELD MONUMENTATION AND MUST BE VERIFIED. PROPERTY LINES SHOWN ARE APPROXIMATE AS PROVIDED BY HYDE COUNTY GIS.
  - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) ROADWAY STANDARD DRAWINGS AND SPECIFICATIONS, RULES GOVERNING PUBLIC WATER SYSTEMS (NCDENR PWSS), AND NCDENR DIVISION OF WATER QUALITY. ALL WORK IN PUBLIC RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION WORK AREA PROTECTION MANUAL. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE CONTRACT DRAWINGS, PROJECT MANUAL, AND THE LATEST EDITION OF THE SPECIFICATIONS AT THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
  - THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING STRUCTURES, PIPING, AND UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS OWN SATISFACTION. THE DIAMETERS OF EXISTING PIPING ARE APPROXIMATE AND SHALL BE VERIFIED PRIOR TO PERFORMING FINAL CONNECTIONS. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4249, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.
  - CHANGES IN NEW PIPING OR STRUCTURES FROM THAT SHOWN ON THE DRAWINGS, IN ORDER TO AVOID CONFLICTS WITH EXISTING ELECTRICAL SYSTEMS, MECHANICAL SYSTEMS, EQUIPMENT, STRUCTURES, OR EXISTING PIPING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WHETHER THE CONFLICTS ARE SHOWN OR ARE DISCOVERED IN THE FIELD. LIKEWISE, ALTERATIONS TO EXISTING ELECTRICAL SYSTEMS, MECHANICAL SYSTEMS, EQUIPMENT, OR EXISTING PIPING IN ORDER TO ACCOMMODATE NEW PIPING, STRUCTURES AND EQUIPMENT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER AND THE ENGINEER MUST APPROVE ALL SUCH CHANGES.
  - MAINTAIN AND PROTECT ALL OVERHEAD AND UNDERGROUND ELECTRICAL, TELEPHONE, CABLE TV, WATER, AND ALL OTHER UTILITIES DURING ENTIRE CONSTRUCTION PERIOD. SEPTIC SYSTEM AND WATER SERVICE INTERRUPTIONS AND OTHER UTILITY OUTAGES WILL NOT BE ALLOWED.
  - ALL PROPOSED WATER LINE AND SEWER FORCEMAIN PIPING SHALL MAINTAIN A MINIMUM COVER OF 3.0 FEET. PROPOSED WATER LINE AND SEWER FORCEMAIN PIPING SHALL BE INSTALLED AS REQUIRED TO ALLOW FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN NEW PIPING AND EXISTING UTILITIES.
  - PROVIDE A MINIMUM OF 18 INCHES CLEARANCE BETWEEN PIPING AND FOOTINGS, STRUCTURES, AND OTHER PIPING UNLESS OTHERWISE INDICATED. A POSITIVE GRADE SHALL BE MAINTAINED FOR THE VERTICAL ALIGNMENT OF ALL WATER AND SEWER FORCEMAIN PIPING TO ELIMINATE THE FORMATION OF AIR POCKETS.
  - GATE VALVES AND VALVE BOXES: PROVIDE AN EXTENDED VALVE STEM WHERE DEPTH TO TOP OF VALVE EXCEEDS 5 FEET.
  - HORIZONTAL DISTANCE IS INDICATED FOR ALL PROPOSED PIPE LENGTHS SHOWN ON THE DRAWINGS. DEFLECT PIPE JOINTS AS REQUIRED TO MAINTAIN WATERLINE AND FORCEMAIN ALIGNMENTS SHOWN. THE CONTRACTOR SHALL PROVIDE ALL PIPE FITTINGS AS REQUIRED FOR COMPLETE AND OPERABLE PIPE INSTALLATIONS.
  - CONTRACTOR SHALL PROVIDE ALL CONNECTING PIPES AND TRANSITION PIECES REQUIRED TO MAKE FINAL PIPING CONNECTIONS.
  - VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED AND MAINTAINED FOR ALL DISTURBED AREAS IN ACCORDANCE WITH ALL LOCAL REQUIREMENTS AND THE LATEST EDITION OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED AS A FIRST STEP IN CONSTRUCTION AND BEFORE EXCAVATION BEGINS. SILT FENCE, CULVERT INLET PROTECTION, INLET PROTECTION, AND OTHER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED TO PREVENT THE MOVEMENT OF SEDIMENT DOWNSTREAM.
  - CONSTRUCTION LIMITS SHALL INCLUDE ALL DISTURBED AREAS. ALL GRASSED DISTURBED AREAS SHALL BE SEEDED AND PROVIDED WITH EROSION CONTROL DURING AND AT THE END OF CONSTRUCTION. ALL WORK SHALL BE PERFORMED WITHIN THE NCDOT RIGHT OF WAY. WORK OUTSIDE OF THE RIGHT OF WAY MAY REQUIRE TEMPORARY CONSTRUCTION EASEMENTS TO BE OBTAINED BY OTHERS.
  - UNLESS OTHERWISE NOTED, REMOVE AND DISPOSE OF ALL ITEMS INDICATED TO BE DEMOLISHED OFF THE OWNER'S PROPERTY IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
  - THE CONTRACTOR SHALL BE FULLY LIABLE FOR REPAIR OF ANY DAMAGES ON PUBLIC OR PRIVATE PROPERTY CAUSED BY HIS CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL REPLACE ALL DISTURBED SURFACES IN KIND, INCLUDING PAVEMENT, STONE, DITCHES, MAILBOXES, STORM CULVERTS, DRIVEWAY CULVERTS, ETC. CONTRACTOR SHALL REPLACE ROADSIDE SHOULDERS, DITCHES, FILL SLOPES/CUTS TO STABILIZED PRECONSTRUCTION CONDITIONS. ROADSIDE LANDSCAPING SHALL BE PROTECTED AS MUCH AS POSSIBLE. CULVERTS SHALL BE BACKFILLED AND PROPERLY COMPACTED PER NCDOT SPECIFICATION. CULVERT ENDS SHALL BE GRADED WITH POSITIVE DRAINAGE WITH SUFFICIENT EROSION AND SEDIMENT CONTROLS INSTALLED. PRIVATE ENTRANCE CULVERTS SHALL BE MAINTAINED FOR POSITIVE ROADSIDE DRAINAGE. ANY IMPACTED PRIVATE ENTRANCE CONCRETE APRONS SHALL BE REPLACED IN THEIR ENTIRETY.
  - THE CONTRACTOR SHALL PROTECT EXISTING PAVED SURFACES. ANY DAMAGED PAVEMENT SHALL BE REPAIRED TO MATCH EXISTING. TRACKED EQUIPMENT WILL NOT BE ALLOWED ON PAVED SURFACES. ANY PAVEMENT MARKINGS DAMAGED BY CONSTRUCTION SHALL BE REPLACED IN KIND BY A PAVEMENT MARKING CONTRACTOR FROM THE NCDOT PRE-QUALIFICATION LIST.
  - ALL PROPERTY PINS, AND RIGHT OF WAY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LAND SURVEYOR LICENSED BY THE STATE OF NORTH CAROLINA.
  - ALL CONSTRUCTION ACTIVITIES ASSOCIATED WITH WORKING IN OR CROSSING A LIVE STREAM SHALL BE UNDER THE JURISDICTIONAL AUTHORITY OF THE U.S. ARMY CORPS OF ENGINEERS. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS IN THE APPLICABLE CORPS NATIONWIDE PERMITS, AS WELL AS ALL APPLICABLE STATE AND LOCAL REGULATIONS.
  - SURFACE DRAINAGE: COMPLETELY DRAIN CONSTRUCTION SITE DURING PERIODS OF CONSTRUCTION TO KEEP SOIL MATERIALS SUFFICIENTLY DRY. PROVIDE TEMPORARY DITCHES, SWALES, AND OTHER DRAINAGE FEATURES AND EQUIPMENT AS REQUIRED TO MAINTAIN DRY SOILS. WHEN UNSUITABLE WORKING PLATFORMS FOR EQUIPMENT OPERATION AND UNSUITABLE SOIL SUPPORT FOR SUBSEQUENT CONSTRUCTION FEATURES DEVELOP, REMOVE UNSUITABLE MATERIAL AND PROVIDE NEW SOIL MATERIAL AS SPECIFIED IN SPEC. SECTION 02200 AT NO ADDITIONAL COST TO THE OWNER.
  - SUBSURFACE DRAINAGE: CONSIDER SITE SURFACE AND SUBSURFACE CONDITIONS, AVAILABLE SOIL, AND HYDROLOGICAL DATA. REMOVE WATER BY BENCHING, SUMP PUMPING, OR OTHER METHODS TO PREVENT SOFTENING OF SURFACES EXPOSED BY EXCAVATION. USE FILTERS ON DEWATERING DEVICES TO PREVENT REMOVAL OF FINES FROM SOIL. PROVIDE EROSION CONTROL AT OUTLET OR PIPING TO PREVENT EROSION. OPERATE DEWATERING SYSTEM CONTINUOUSLY UNTIL CONSTRUCTION WORK BELOW EXISTING WATER LEVELS IS COMPLETE.
  - CONSTRUCT EXCAVATION SUPPORT SYSTEMS AS REQUIRED BY OSHA AND U.S. ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENT MANUAL EM 385-1-1, SECTION 25 AS A THROUGH E TO ADEQUATELY SUPPORT EXISTING SOIL AND ADJACENT STRUCTURES DURING EXCAVATION ACTIVITIES.
  - MAINTAIN TRAFFIC TO ALL PROPERTIES AT ALL TIMES DURING CONSTRUCTION ACTIVITIES. WHENEVER CONSTRUCTION IS IN OR ADJACENT TO NCDOT STREETS, THE CONTRACT SHALL PROVIDE SIGNS, DRUMS, AND TRAFFIC CONTROL DEVICES AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ALL SIGNS AND TRAFFIC CONTROL SHALL CONFORM TO THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS AS PUBLISHED BY THE U.S. DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, AND THE WORK AREA PROTECTION MANUAL. CONTRACTOR SHALL TEMPORARILY RELOCATE TRAFFIC RELATED SIGNAGE DURING CONSTRUCTION.
  - THE CONTRACTOR SHALL CONNECT ALL RESIDENCES ALONG THE PROPOSED WATERLINE ALIGNMENT TO THE PROPOSED WATERLINE WITH NEW WATER LATERALS, VALVES, METER BOX, AND APPURTENANCES WHETHER OR NOT SHOWN ON THE PLANS. THE COUNTY WILL PROVIDE THE METER AND RADIO READ REGISTER. THE HOUSE PLUMBING SHALL BE CONNECTED TO THE NEW METER. EXISTING WELLS SHALL BE ABANDONED BY OTHERS.

### LOCATION MAP



### VICINITY MAP





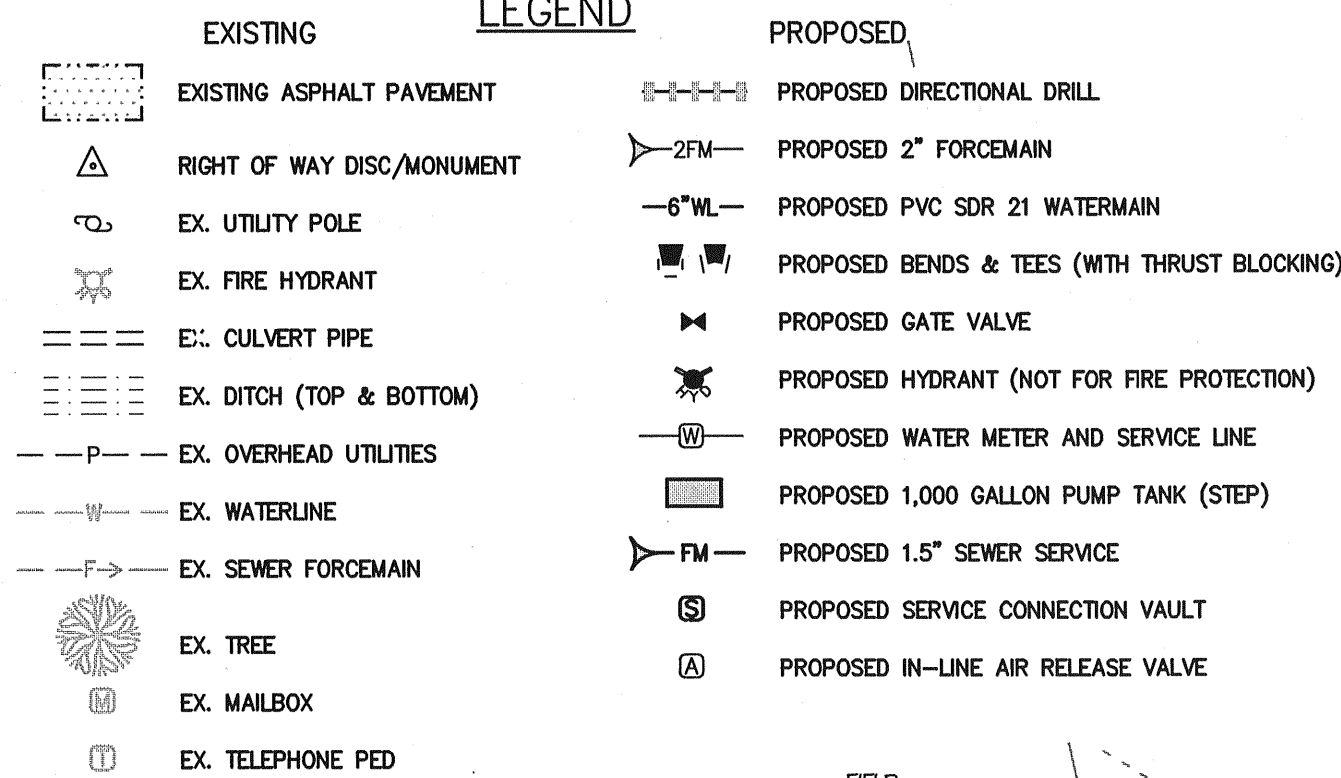
**BEFORE YOU DIG !**

**CALL TOLL FREE**

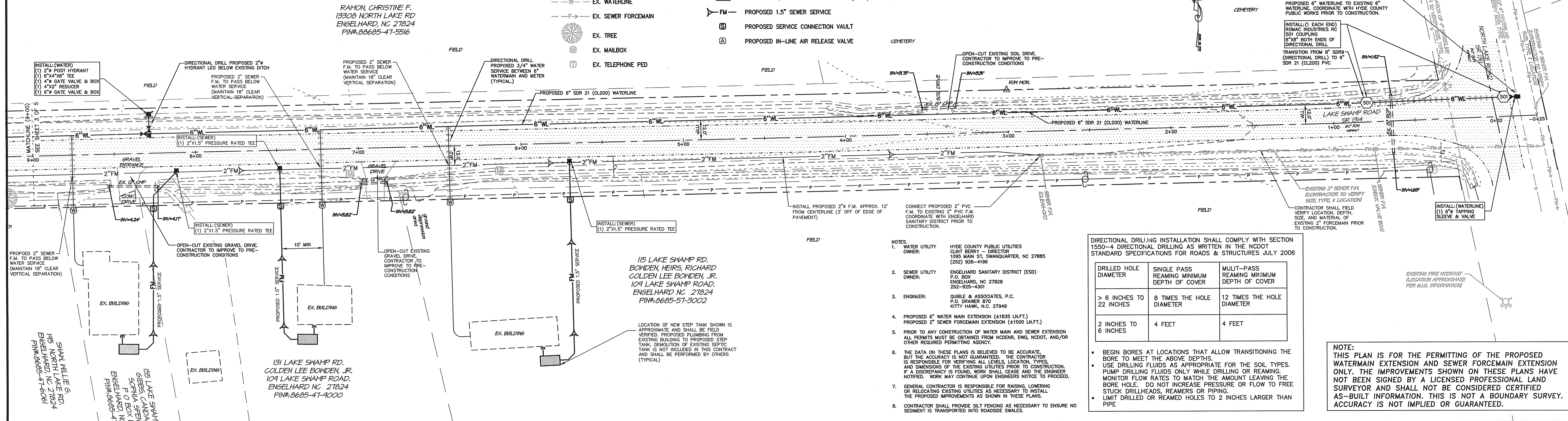
**1-800-632-4949**

**NORTH CAROLINA  
ONE CALL**

RAMON, CHRISTINE F.  
13308 NORTH LAKE RD  
ENGELHARD, NC 27824  
PIN#: 88685-47-5516



PIN#: 8685-57-4302  
FULFORD CEMETARY



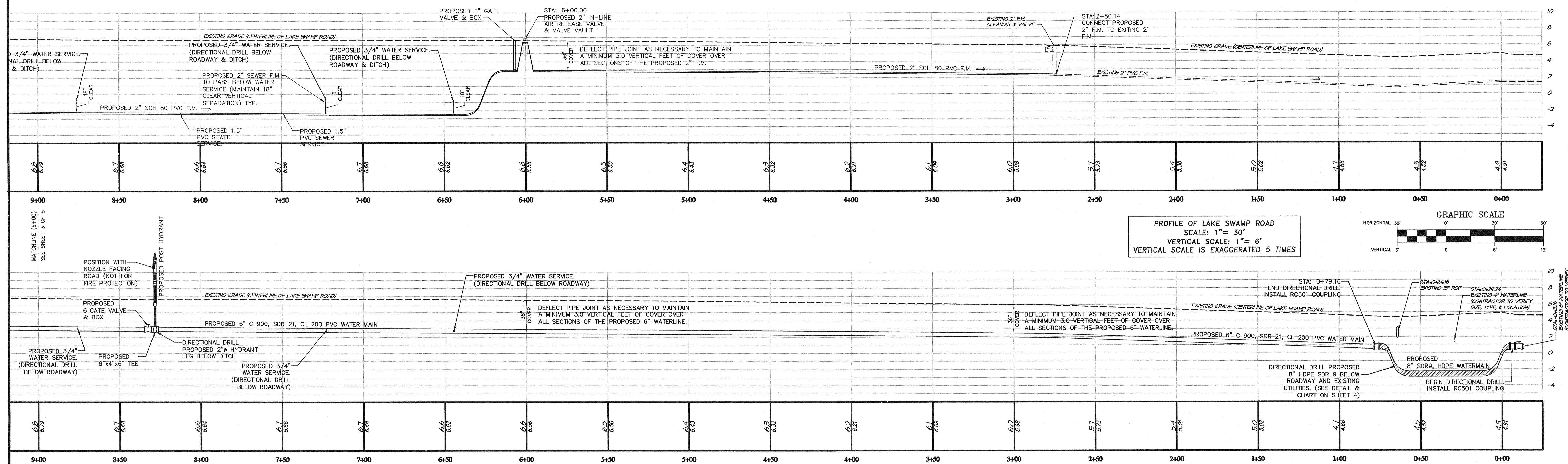
DIRECTIONAL DRILLING INSTALLATION SHALL COMPLY WITH SECTION 1550-4 DIRECTIONAL DRILLING AS WRITTEN IN THE NCDOT STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES JULY 2006

DRILLED HOLE DIAMETER	SINGLE PASS REAMING MINIMUM DEPTH OF COVER	MULTI-PASS REAMING MINIMUM DEPTH OF COVER
> 6 INCHES TO 22 INCHES	8 TIMES THE HOLE DIAMETER	12 TIMES THE HOLE DIAMETER
2 INCHES TO 6 INCHES	4 FEET	4 FEET

- BEGIN BORES AT LOCATIONS THAT ALLOW TRANSITIONING THE BORE TO MEET THE ABOVE DEPTHS.
- USE DRILLING FLUIDS AS APPROPRIATE FOR THE SOIL TYPES. PUMP DRILLING FLUIDS ONLY WHILE DRILLING OR REAMING. MONITOR FLOW RATES TO MATCH THE AMOUNT LEAVING THE BORE HOLE. DO NOT INCREASE PRESSURE OR FLOW TO FREE STUCK DRILLHEADS, REAMERS OR PIPING.
- LIMIT DRILLED OR REAMED HOLES TO 2 INCHES LARGER THAN PIPE

NOTE:  
THIS PLAN IS FOR THE PERMITTING OF THE PROPOSED  
WATERMAIN EXTENSION AND SEWER FORCEMAIN EXTENSION  
ONLY. THE IMPROVEMENTS SHOWN ON THESE PLANS HAVE  
NOT BEEN SIGNED BY A LICENSED PROFESSIONAL LAND  
SURVEYOR AND SHALL NOT BE CONSIDERED CERTIFIED  
AS-BUILT INFORMATION. THIS IS NOT A BOUNDARY SURVEY.  
ACCURACY IS NOT IMPLIED OR GUARANTEED.

**LAKE SWAMP ROAD - STA.: 0+00 TO 9+00**



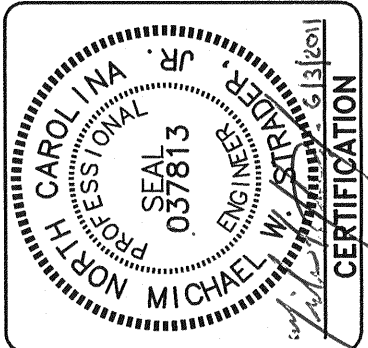
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PLOT SCALE: NTS

**Quible**  
SINCE 1959

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**& Associates, P.C.**  
ENGINEERING \* CONSULTING \* PLANNING  
ENVIRONMENTAL SCIENCES \* SURVEYING

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**PLAN AND PROFILES**  
**HYDE COUNTY FY 09 CDBG**  
**LAKE SWAMP ROAD**

COMMISSION NO.	P09052
DESIGNED BY	MWS
DRAWN BY	TAS
CHECKED BY	MWS
ISSUE DATE	5/2/11

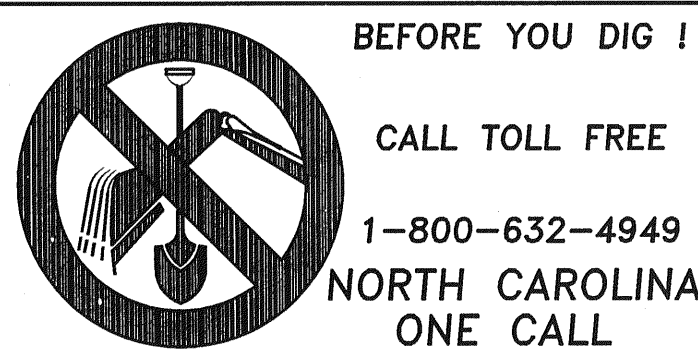
SHEET NO.  
2  
OF 5 SHEET



- NOTES:
1. WATER UTILITY OWNER: HYDE COUNTY PUBLIC UTILITIES  
CLINT BERRY - DIRECTOR  
1095 MAIN ST, SWANQUARTER, NC 27885  
(252) 926-4196
  2. SEWER UTILITY OWNER: ENGELHARD SANITARY DISTRICT (ESD)  
P.O. BOX  
ENGELHARD, NC 27828  
252-925-4301
  3. ENGINEER: QUIBLE & ASSOCIATES, P.C.  
P.O. DRAWER 670  
KITTY HAWK, N.C. 27949
  4. PROPOSED 6" WATER MAIN EXTENSION (±1835 LN.F.T.)  
PROPOSED 2" SEWER FORCEMAIN EXTENSION (±1500 LN.F.T.)
  5. PRIOR TO ANY CONSTRUCTION OF WATER MAIN AND SEWER EXTENSION ALL PERMITS MUST BE OBTAINED FROM NCDENR, DWS, NCDOT, AND/OR OTHER REQUIRED PERMITTING AGENCY.
  6. THE DATA ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATION, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.
  7. GENERAL CONTRACTOR IS RESPONSIBLE FOR RAISING, LOWERING OR RELOCATING EXISTING UTILITIES AS NECESSARY TO INSTALL THE PROPOSED IMPROVEMENTS AS SHOWN IN THESE PLANS.
  8. CONTRACTOR SHALL PROVIDE SILT FENCING AS NECESSARY TO ENSURE NO SEDIMENT IS TRANSPORTED INTO ROADSIDE SWALES.

- LEGEND
- EXISTING
- EXISTING ASPHALT PAVEMENT
  - RIGHT OF WAY DISC/MONUMENT
  - EX. UTILITY POLE
  - EX. FIRE HYDRANT
  - EX. CULVERT PIPE
  - EX. DITCH (TOP & BOTTOM)
  - EX. OVERHEAD UTILITIES
  - EX. WATERLINE
  - EX. SEWER FORCEMAIN
  - EX. TREE
  - EX. MAILBOX
  - EX. TELEPHONE PED

- PROPOSED
- PROPOSED DIRECTIONAL DRILL
  - PROPOSED 2" FORCEMAIN
  - PROPOSED PVC SDR 21 WATERMAIN
  - PROPOSED BENDS & TEES (WITH THRUST BLOCKING)
  - PROPOSED GATE VALVE
  - PROPOSED HYDRANT (NOT FOR FIRE PROTECTION)
  - PROPOSED WATER METER AND SERVICE LINE
  - PROPOSED 1,000 GALLON PUMP TANK (STEP)
  - PROPOSED 1.5" SEWER SERVICE
  - PROPOSED SERVICE CONNECTION VAULT
  - PROPOSED IN-LINE AIR RELEASE VALVE



NOTE:

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DIRECTIONAL DRILLING INSTALLATION SHALL COMPLY WITH SECTION 1502-4 DIRECTIONAL DRILLING AS WRITTEN IN THE NCDOT STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES JULY 2006		
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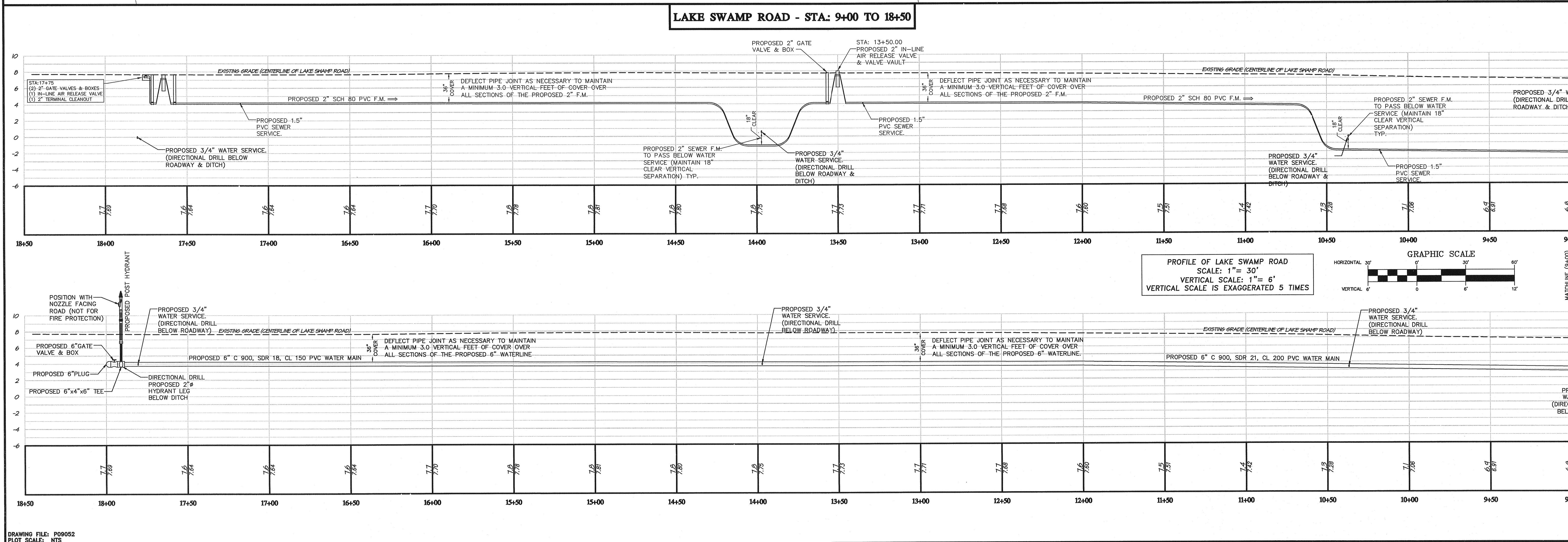
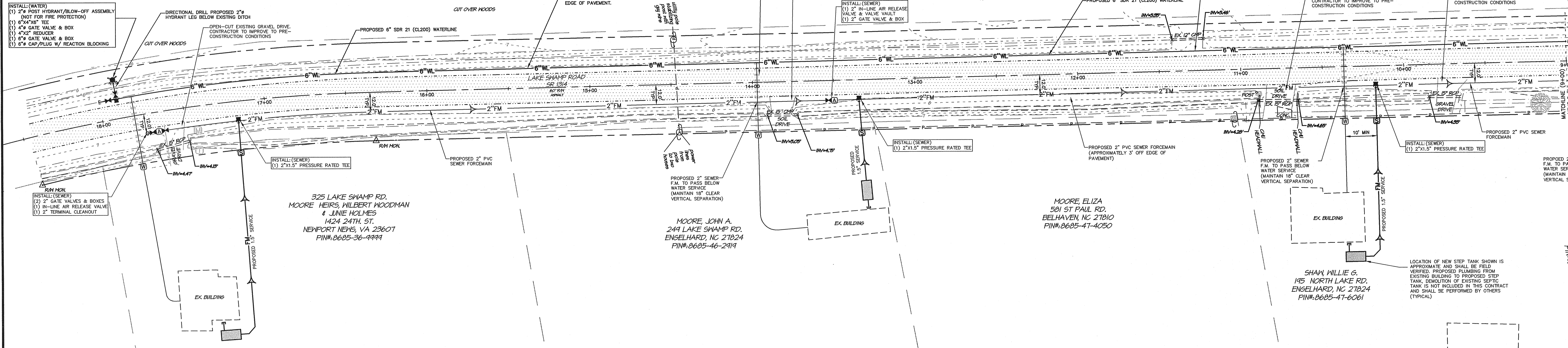
• BEGIN BORES AT LOCATIONS THAT ALLOW TRANSDUCING THE BORE TO MEET THE ABOVE DEPTHS.

• USE DRILLING FLUIDS AS APPROPRIATE FOR THE SOIL TYPES. PUMP DRILLING FLUIDS ONLY WHILE DRILLING OR REAMING. MONITOR FLOW RATES TO MATCH THE AMOUNT LEAVING THE BORE HOLE. DO NOT INCREASE PRESSURE OR FLOW TO FREE STUCK DRILLHEADS, REAMERS OR PIPING.

• LIMIT DRILLED OR REAMED HOLES TO 2 INCHES LARGER THAN PIPE

NOTE:

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PLOT SCALE: NTS

Quible & Associates, P.C.

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NC License: C-0008 27849

PO Box 251 25300 Kitty Hawk, NC 27949

Phone: 252-926-1280 Fax: 252-926-1280

Internet: c.ambrose@quible.com

COMMISSION NO. P09052

DESIGNED BY MWS

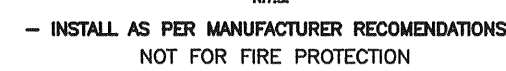
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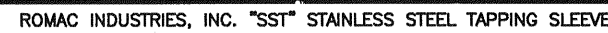
ISSUE DATE 5/2/11

SHEET 3 OF 5 SHEETS





- NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
  2. SEE STANDARD THRUST BLOCK TABLES FOR AREA OF CONCRETE REQUIRED.
  3. COAT ALL TIE-RODS WITH BITUMASTIC PAINT



1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING
2. NO ROCKS OR Boulders 4" and Larger shall be used in initial backfill area.
3. ALL backfill material shall be satisfactory soil materials unless otherwise specified by the Engineer. (Satisfactory soil fill shall consist of sand or gravel containing less than 20% by weight of fines [SW, SP, SP-SM, SM] having a liquid limit less than 20 and plastic limit less than 6, and free of rubble, organics, clay, debris, and other unsuitable material.)

NOTE:  
THIS TABLE BASED ON WATER PRESSURE 150 PSI  
SOIL BRG. 1500 #/SQ. FT. TO 2000 #/SQ. FT.



1. ONCE INSTALLED AND TIGHT, THE STEEL RODS AND BOLTS SHALL BE COATED WITH 2 COATS OF BITUMINOUS BASE PAINT.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
3. PROVIDE SHOP DRAWINGS FOR ALL VERTICAL BENDS

N.T.S



- BEGIN BORES AT LOCATIONS THAT ALLOW TRANSITIONING THE BORE TO MEET THE ABOVE DEPTHS.
- USE DRILLING FLUIDS AS APPROPRIATE FOR THE SOIL TYPES. PUMP DRILLING FLUIDS ONLY WHILE DRILLING OR REAMING. MONITOR FLOW RATES TO MATCH THE AMOUNT LEAVING THE BORE HOLE. DO NOT INCREASE PRESSURE OR FLOW TO FREE STUCK DRILLHEADS, REAMERS OR PIPING.
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TO LEGAL ACTION

## DEVIATIONS

DATE \_\_\_\_\_

10

NORTH CAROLINA

HYDE COUNTY

ENGELHARD

COMMISSION NO.

DESIGNED BY MWS

DRAWN BY TAS

CHECKED BY MWS

5/2/11

SHEET NO

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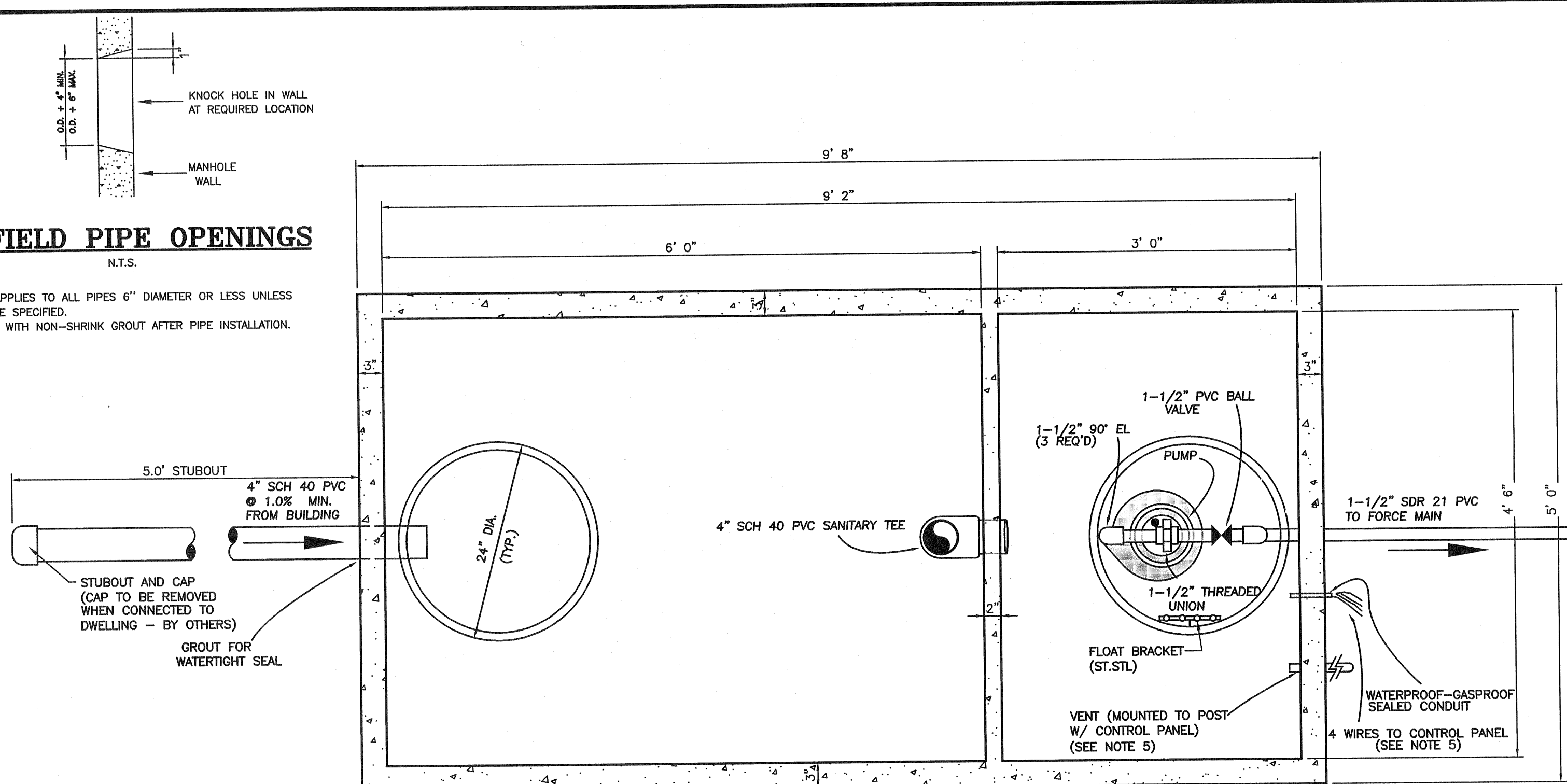
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OF 5 SHEET



**NOTES:**

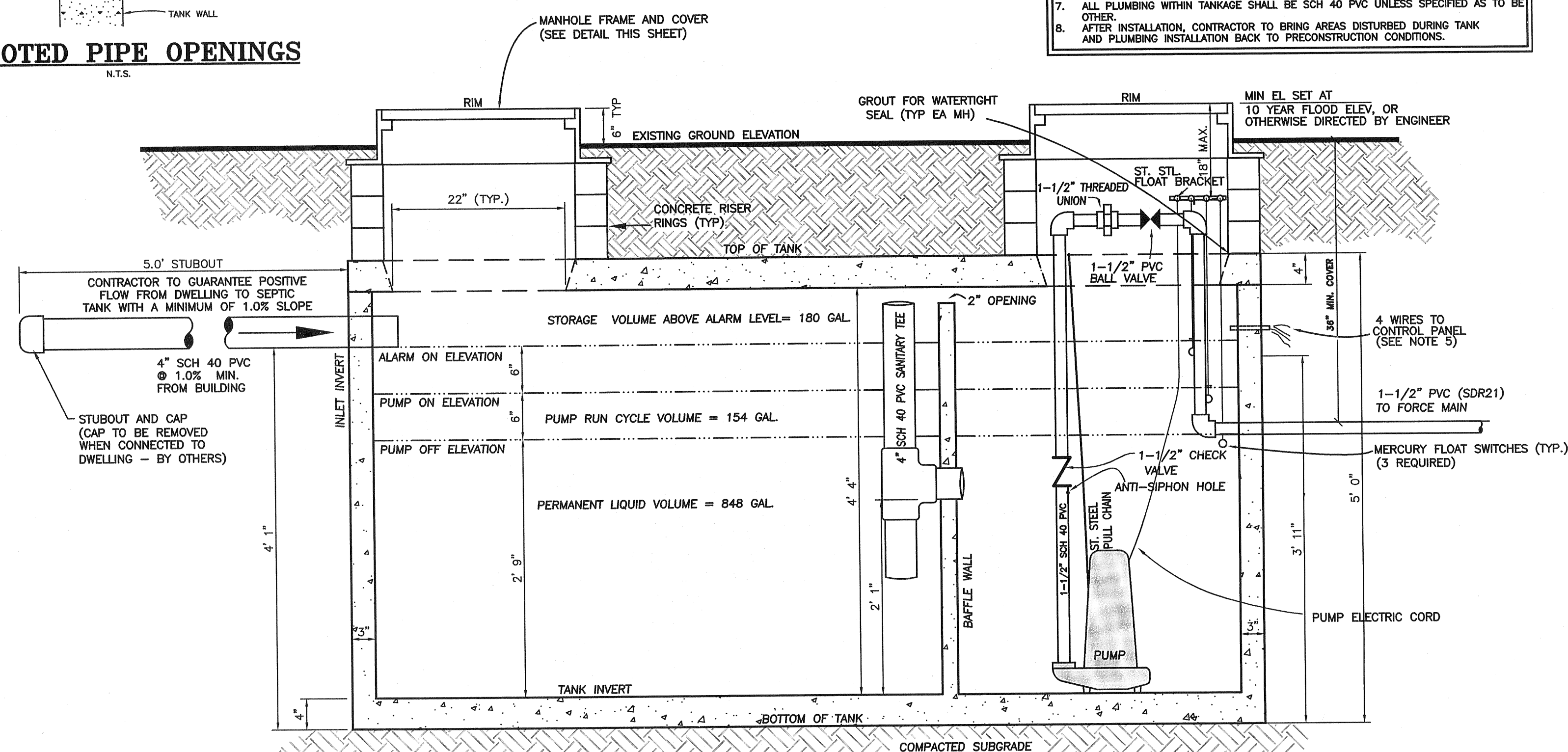
1. THIS APPLIES TO ALL PIPES 6" DIAMETER OR LESS UNLESS OTHERWISE SPECIFIED.
2. CLOSE WITH NON-SHRINK GROUT AFTER PIPE INSTALLATION



## PLAN

N.T.S.

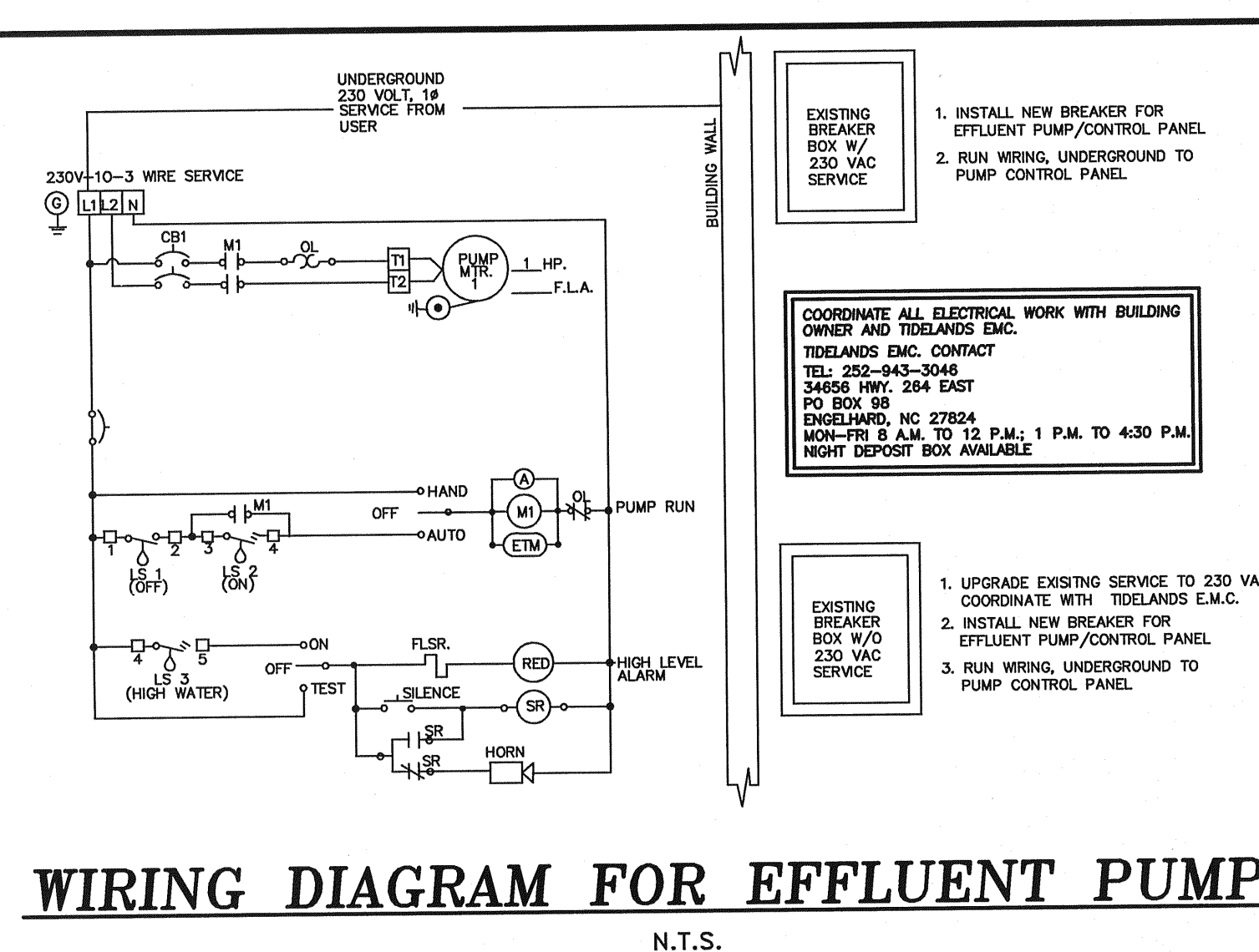
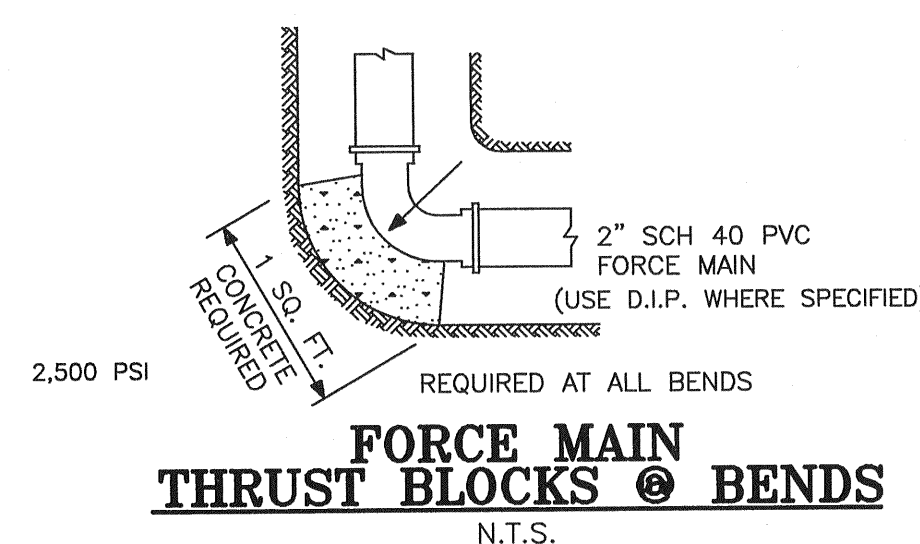
- NOTES:**
- SEWER CONTRACTOR TO PLUMB DISCHARGE PIPING IN SUCH A MANNER THAT ALLOWS EASY ACCESS TO GATE VALVE FOR FLOW ADJUSTMENT AND TO MANHOLES FOR PUMP REMOVAL.
  - FLOAT BRACKET TO BE WITHIN 18" OF PUMP COVER FOR EASY FLOAT ADJUSTMENT.
  - CONTRACTOR TO BE RESPONSIBLE FOR DISCHARGE PIPING 50' OR EXCESSIVE TO BE ATTACHED TO EXISTING PIPING OR TO BE REMOVED TO ALLOW FOR VENTILATION OCCURS DURING OPERATION.
  - CONTRACTOR TO BE RESPONSIBLE FOR 1" OR MORE NYLON ROPE, PULL CHAIN TO BE ATTACHED TO MANHOLE FRAME OR CONCRETE RISER RINGS WITH EASY ACCESS OF RISE.
  - ALL PIPE OPENINGS SHALL BE GROUTED FOR WATERPROOF SEALS.
  - CONTROL PANEL AND VENT MAY BE REMOTELY LOCATED IN AREAS DESIGNATED BY THE OWNER.
  - ALL PLUMBING WITHIN TANKAGE SHALL BE 3/4" OR 1" PVC UNLESS SPECIFIED AS TO OTHERWISE.
  - AFTER INSTALLATION, CONTRACTOR TO BRING AREAS DISTURBED DURING TANKAGE INSTALLATION BACK TO ORIGINAL CONDITION.



### 1,000 GAL. SEPTIC TANK

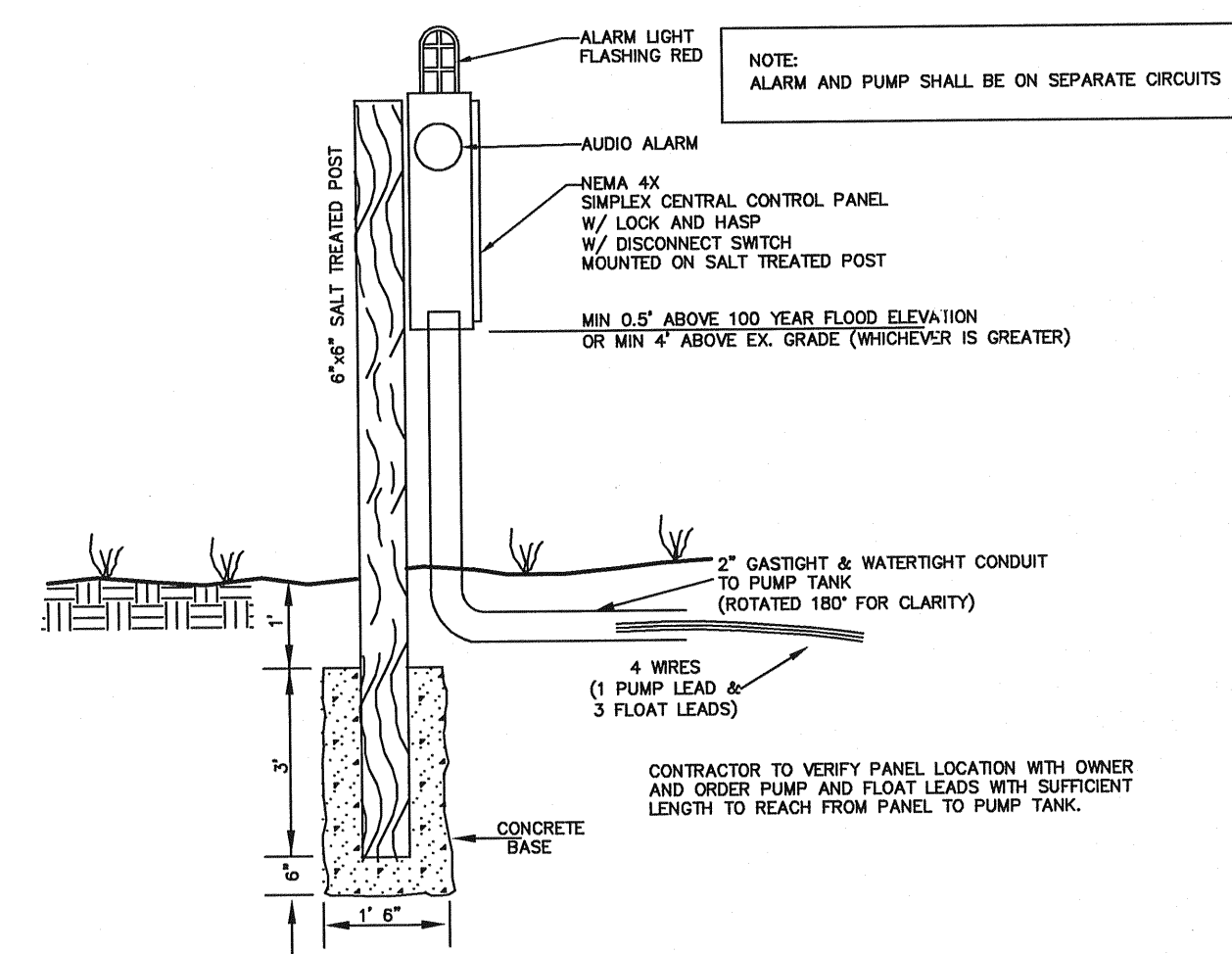
N.T.S.

REFER TO TECHNICAL SPECIFICATIONS FOR  
MANUFACTURES AND DESIGN PARAMETERS.

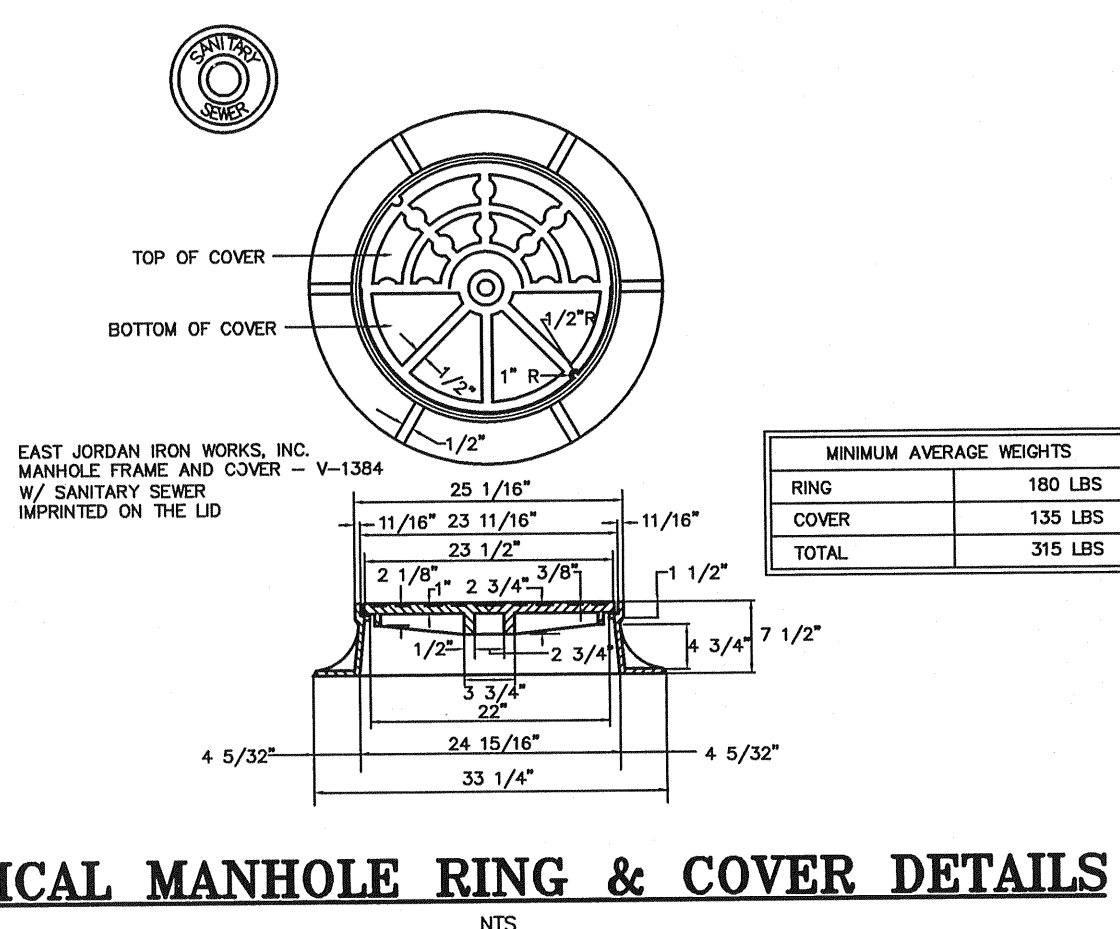


### WIRING DIAGRAM FOR EFFLUENT PUMP

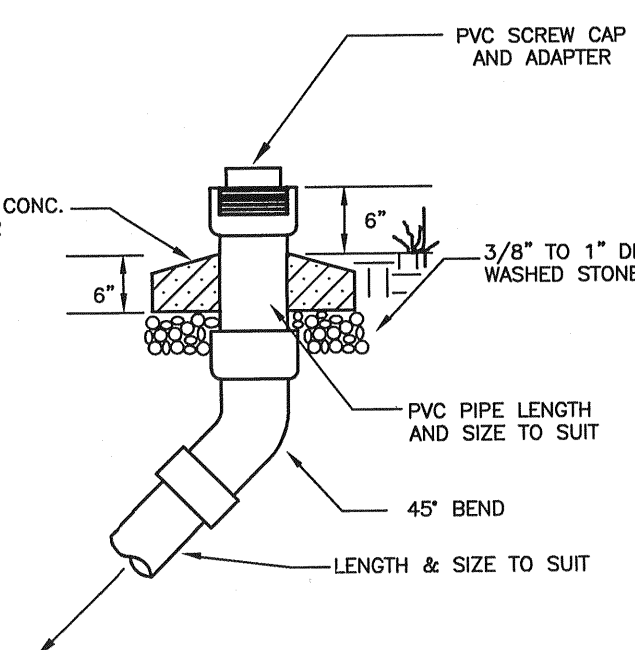
N.T.S



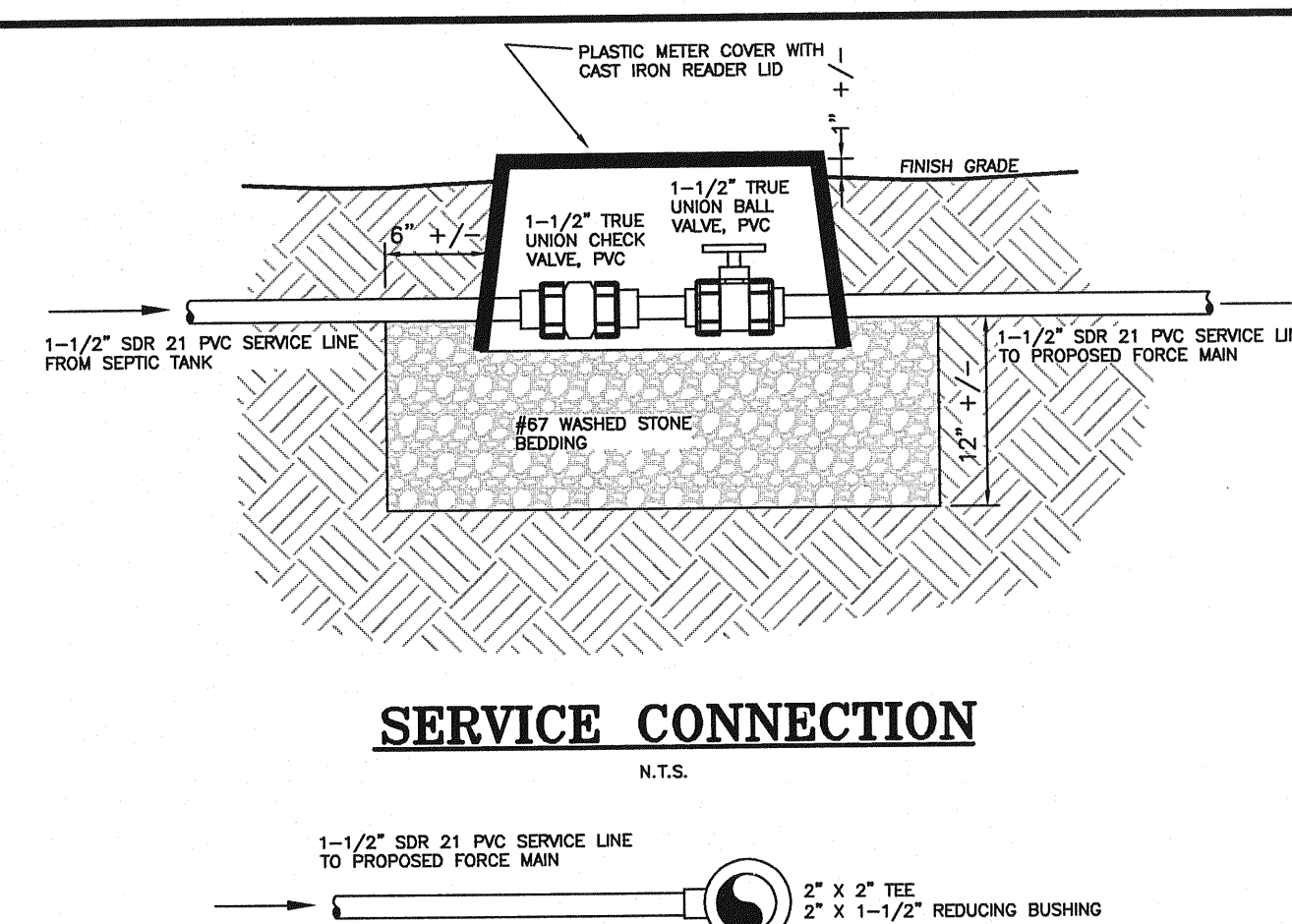
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## NTS

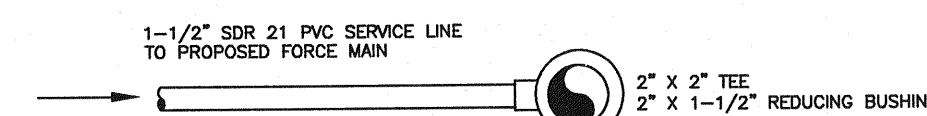


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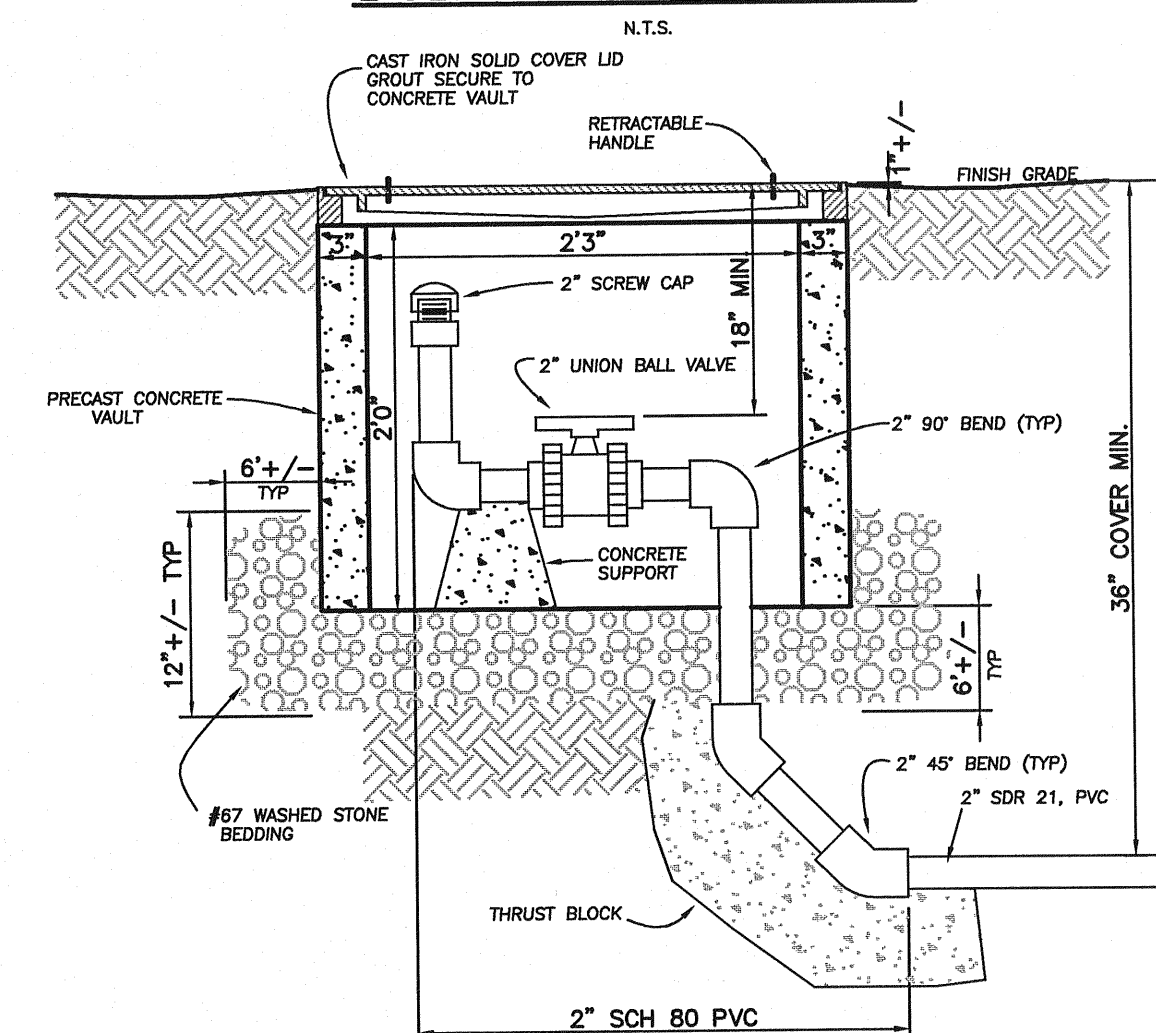


### SERVICE CONNECTION

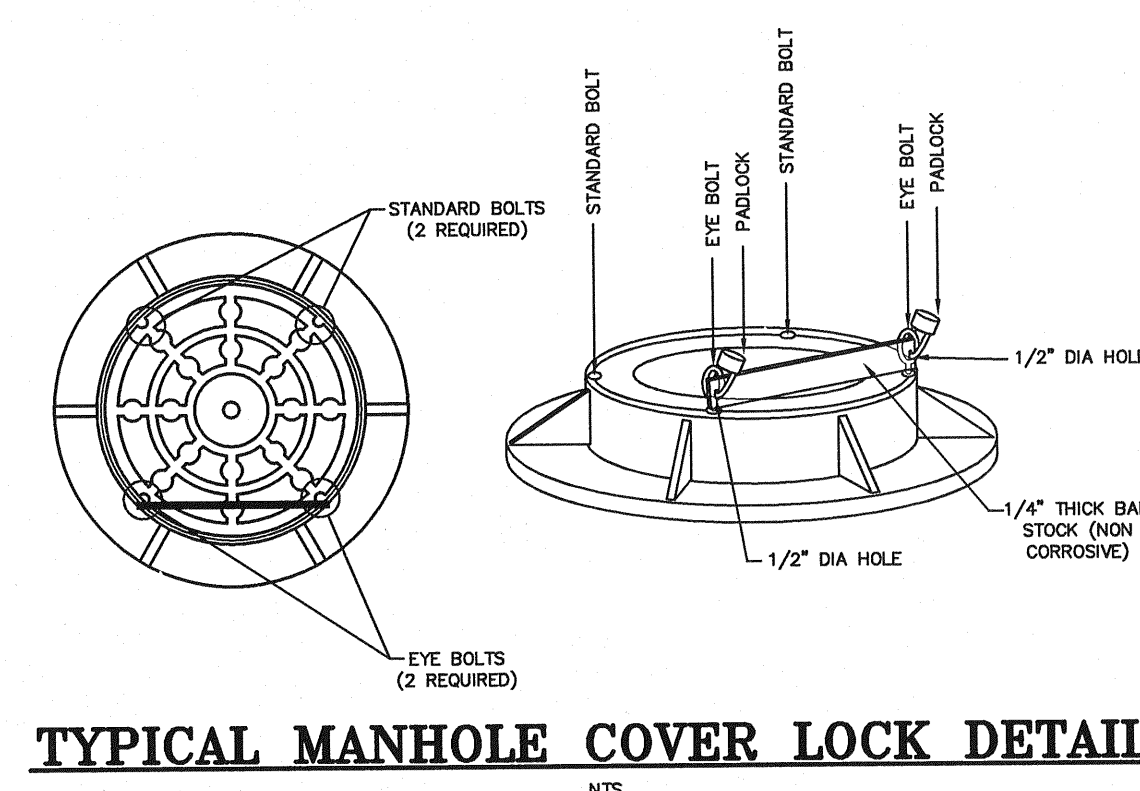
N.T.S



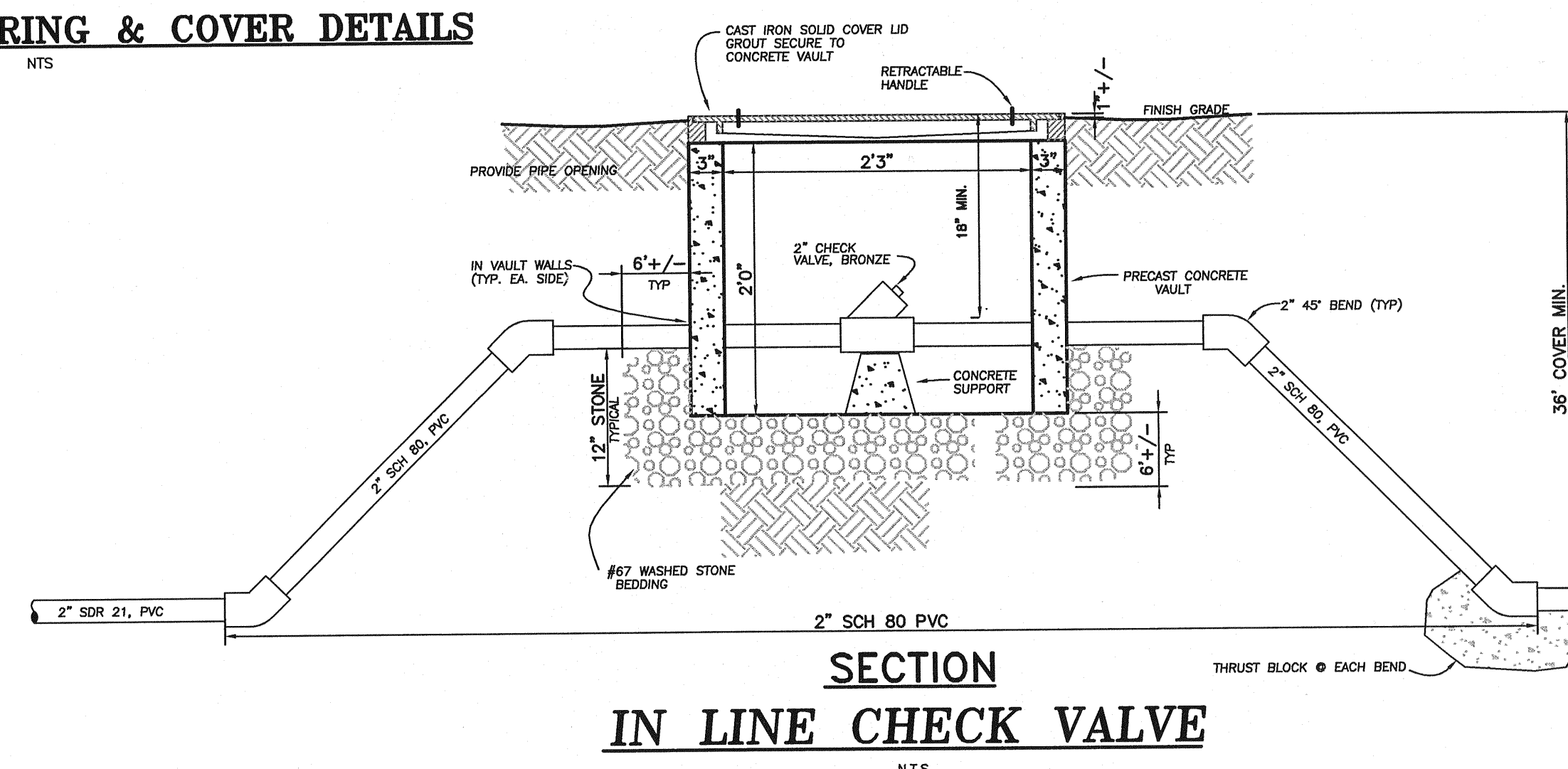
N.T.S



## N.T.



## NTS



## SECTION IN LINE CHECK VALVE

N.T.S.